

IN THE CLAIMS

Please amend the following claims.

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1. (Amended) A method of forming copper interconnect, comprising:
forming a copper diffusion barrier layer in at least a damascene structure;
forming a copper layer over the barrier layer;
removing a portion of the copper layer by chemical mechanical polishing with
a slurry comprising a chelating organic acid buffer system, colloidal silica, and a low
electrochemical potential oxidizer.
2. The method of Claim 1, wherein the oxidizer comprises hydrogen peroxide.
3. The method of Claim 2, wherein the chelating organic acid buffer system
comprises citric acid and potassium citrate.
4. The method of Claim 3, wherein the slurry further comprises a corrosion
inhibitor.
5. The method of Claim 4, wherein the corrosion inhibitor comprises
benzotriazole.
6. (Amended) A method of forming copper interconnect, comprising:
forming a barrier layer over a substrate having at least one trench therein;
forming a copper seed layer on the surface of the barrier layer;

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forming a copper layer over the barrier and seed layers;
removing a portion of the copper layer by chemical mechanical polishing with
a first slurry comprising a chelating organic acid buffer system, colloidal silica, and a
low electrochemical oxidizer; and
removing at least a portion of the barrier layer by chemical mechanical polishing with
a second slurry comprising a chelating organic acid buffer system, and colloidal
silica;
wherein the second slurry is formed without the oxidizer.

7. The method of Claim 6, wherein the barrier layer comprises tantalum.
8. The method of Claim 7, wherein the chelating organic acid buffer system
comprises citric acid and potassium citrate.
9. The method of Claim 8, wherein the oxidizer comprises hydrogen peroxide.
10. The method of Claim 9, wherein the first slurry further comprises a corrosion
inhibitor.
11. The method of Claim 10, wherein the first slurry has a pH in the range of 3 to
6, and the corrosion inhibitor comprises benzotriazole.